CHAPTER 4

RESEARCH RESULTS

General Overview

A total of 53 public listed companies in the Kuala Lumpur Stock Exchange (KLSE) were taken-over in the period of August 1990 to December 1993. 11 of the 53 acquisitions were rescue plans that involved target companies that were earlier suspended by the KLSE, such as Federal Cable Works Bhd., Imatex Bhd., Kesang Corporation Bhd. and etc.. Panglobal Equities Bhd., a company listed in the Finance sector was excluded from this research. This was due to the fact that a company with comparable size listed in the same sector was not available to act as control. The balance of the 41 acquired companies with an equal amount of non-acquired companies with comparable sizes listed in similar sectors were then analyzed in this research. Table 1 shows the detailed breakdown of sectors and market capitalization of the 41 companies that were acquired and analyzed in this research.

Table 1 ranks the sector that has the highest number of acquired companies to the lowest. During the period of August 1990 to December 1993, consumer products and trading & services were the two sectors that had the highest incidence of companies being acquired, followed by industrial products, plantation, property, second board, mining, finance and construction.

Table 1: Companies Acquired According To Sectors In KLSE.

Sector	Number	Percentage	Market Cap.(mil RM)
Consumer	8	19.5	3,474.44
Trading & Services	8	19.5	5,413.46
Products	7	17.1	1,989.46
Plantations	5	12.3	2,595.38
Property	4	9.8	864.76
Second Board	4	9.8	220.08
Mining	2	4.8	307.90
Finance	2	4.8	2,525.06
Construction	1	2.4	127.55
Total	41	100.0	17,518.28

Table 2 illustrates the means of various financial ratios for the acquired firms and their controls. Percentage differences on all the ratios between the acquired firms and controls were presented in the same table. Results tabulated in this table will be utilized for a general overview of the general financial characteristics of the acquired firms against their controls. Since the means of each ratios are illustrated, the results presented in Table 2 will reflect the average characteristics of the acquired companies and their controls. Table 2 shows the results for price-earnings ratios and valuation ratios. Generally, price-earnings ratio is a better measure than valuation ratio to indicate overvaluation of firms. The price-earnings ratios of both the acquired firms and their controls were well above 20. In general, a company is overvalued when its PER is greater than 20. A company is undervalued when its PER is less than 15. Table 2 shows that the price-earnings ratios of both the acquired firms and their controls are greater than 20. The PER of the acquired firms in the announcement's month and three months preceeding the announcement were relatively higher than their controls. On the contrary, two to three months preceeding the announcement month, the PERs of the acquired firms were relatively lower than their controls. A general conclusion cannot be made because of the inconsistency in these results. However, the valuation ratios

listed on Table 2 did indicate that the acquired firms were relatively more overvalued against their underlying assets than their controls. All the average valuation ratios of the acquired companies were relatively higher than their controls. Investors were paying more per dollar of net assets of acquired firms compared to that of the controls.

Both the acquired companies and their control were liquid in the short-term, with the controls being more liquid than the acquired firms. Companies taken over were having lower gearing ratios than the controls. The controls, on the other hand were having lower debt-to-equity ratio.

Table 2: Means of Financial Ratios of Acquired Firms and Controls.

Ratio	Acquired Firm	Control	Difference (%)
Valuation Ratios			
o VR(t=0)	3.4244	2.0149	69.95
o VR(t=-1)	3.1080	1.9159	62.22
o VR(t=-2)	2.7759	1.7729	56.57
o VR(t=-3)	2.4605	1.6737	47.01
Price Earnings Ratio			
o PER(t=0)	36.7805	36.6166	0.45
o PER(t=-1)	31.9307	34.8968	-8.50
o PER(t=-2)	28.8122	32.7968	-12.15
o PER(t=-3)	49.0540	38.0310	28.99
Short-Term Liquidity			
o Liquidity Ratio	1.2302	2.0000	-38.49
Leverage Ratios			
o Gearing	0.0785	0.1110	-29.23
o Debt-to-Equity	1.7054	0.8044	112.01
Profitability Ratios			
o Net Profit Margin	-0.0156	0.2134	-107.31
o ROCE	0.0663	0.0915	-27.54
o Return on Investment	0.0224	0.0732	-69.40
o ROSF	-0.0495	0.1046	-147.32
o Earinigs Per Share	0.1024	0.1473	-30.48
Activity Ratio			
o Assets Turnover	0.6993	0.5876	19.01
Dividend Policy			
o Dividend Yield	2.3700	3.0966	-23.46
o Times Covered	1.8112	2.7561	-34.28
Growth in Profits			
o EPS Growth Rate	85.1827	120.9471	-29.57

These two leverage ratios indicated that the acquired companies were using less long-term liabilities and more current liabilities to finance their business operations. Table 2 also illustrated that the acquired firms had lower net profit margin, return on capital employed (ROCE), return on investment (ROI), return on shareholders fund (ROSF) and earnings per share (EPS) than their controls. These results implied that the acquired firms were on the average less profitable and operated with negative net profit margin. In spite of the lower profitability, the asset turnover of the acquired companies was 19.01% higher than the controls. The profitability and activity ratios indicated that acquired companies were characterised by higher tradings with lower profit margins.

A lower dividend yield for the acquired firms meant that dividends received by their shareholders in relation to their share prices were comparatively lower than their controls. This meant to say that the shareholders of the acquired firms would be able to gain more by selling their shares than receiving dividends. Thus, when comparing to the shareholders of non-acquired firms, the shareholders of acquired companies were better off financially if they were to reap their rewards through capital gains instead of through dividends. The lower times covered for the acquired firms showed that less income were retained in the companies than the non-acquired firms. Lower growth rate in earning per share indicated that the acquired firms were generally less profitable over time than their controls.

Three important points appear to emerge from the above results. First, the acquired firms on the average are relatively more overvalued against their underlying assets compared to the non-acquired companies. However, there is no clear indication of relative overvaluation between the acquired firms and their controls based on price-earnings ratios. Second, the taken-over companies are generally less profitable than the

non-acquired firms. Finally, the acquired companies on the average use more short-term liabilities than long-term liabilities to finance their operations. This generalization even though useful in giving some insights into the average characteristics of the acquired firms, is insufficient to place a final conclusion on this subject. This is because the current generalization does not provide insights into the extent of differences between characteristics of the acquired and non-acquired firms. There is also the lack of ability in the above method to identify the set of ratios that will be able to discriminate between the taken-over and the non-taken-over firms. Univariate analysis, factor analysis and multiple discriminant analysis will be the statistical methods used in this research to study the significant differences between the characteristics of the acquired and non-acquired firms, to summarize the various ratios into smaller sets of characteristics, and to identify ratios that best discriminate both types of companies. The results of these three methods will be discussed in the following sections.

Univariate Analysis

Table 3 illustrates the means between the acquired companies and the controls. The level of significance for each of the financial ratios are stated in the same table. In addition to indicating the means of all the ratios being studied, Table 3 differs from Table 2 as it allows one to analyze the extent of differences between the means of acquired and non-acquired companies.

Table 3 indicates that the valuation ratios of the acquired companies during the month of acquisition (t=0) and three months preceding the takeover were significantly different from the controls, with p-value of 0.016 maximum. The valuation ratios of the acquired firms were consistently higher than the controls, with differences ranging from 47.01% to 69.95%. With these results, we may conclude that Hypothesis 1 is

accepted. Those companies that were acquired during the bull run period of August 1990 to December 1993 were overvalued against their underlying assets more than those non-acquired companies. Apart from the valuation ratios, all the price-earning ratios showed on Table 3 for the acquired firms were not significantly different from the non-acquired firms. Taken that the price-earnings ratio is a better measure than the valuation ratio, this could mean that whether an acquired firm is overvalued or undervalued may not be the primary concern of the acquirer.

Table 3: Summary of t-test between the acquired and control companies.

Ratio	Acquired Firm	Control	Significant Level
Valuation Ratios			
o VR(t=0)	3.4244[a]	2.0149	0.005
o VR(t=-1)	3.1080[a]	1.9159	0.008
o VR(t=-2)	2.7759[a]	1.7729	0.008
o VR(t=-3)	2.4605[a]	1.6737	0.016
Price Earnings Ratio			
o PER(t=0)	36.7805	36.6166	0.989
o PER(t=-1)	31.9307	34.8968	0.780
o PER(t=-2)	28.8122	32.7968	0.690
o PER(t=-3)	49.0540	38.0310	0.625
Short-Term Liquidity			
o Liquidity Ratio	1.2302	2.0000	0.131
Leverage Ratios			
o Gearing	0.0785	0.1110	0.324
o Debt-to-Equity	1.7054[b]	0.8044	0.070
o Proprietary	2.6232	4.1722	0.230
Profitability Ratios			
o Net Profit Margin	-0.0156[a]	0.2134	0.011
o ROCE	0.0663[b]	0.0915	0.086
o Return on Investment	0.0224[a]	0.0732	0.041
o ROSF	-0.0495[b]	0.1046	0.070
o Earnings Per Share	0.1024	0.1473	0.200
Activity Ratio			
o Assets Turnover	0.6993	0.5876	0.300
Dividend Policy			
o Dividend Yield	2.3700	3.0966	0.182
o Times Covered	1.8112[b]	2.7561	0.072
Growth in Profits			
o EPS Growth Rate	85.1827	120.9471	0.673

a denotes significance level at $p<0.05$.
b denotes significance level at $p<0.10$.

Table 3 illustrates that all the profitability ratios, namely the net profit margin, return on capital employed, return on investment and return on shareholders fund of acquired companies are significantly lower than the non-acquired firms. Net profit margin and return on investment were significantly different at 5% level, while return on capital employed and return on shareholders fund were significantly different at 10% level. Based on these results, we may accept Hypothesis 2.

Table 3 indicates that generally the gearing ratio for acquired companies is lower than that of the non-acquired firms. However, the difference between them was insignificant with p value of 0.324. Hence, Hypothesis 3 was rejected. However, the debt-to-equity ratios of the acquired companies are significantly higher than that of the non-acquired firms. This result is when used together with gearing ratio, suggests that the acquired companies use more current liabilities than long-term liabilities to finance their operation.

Referring to Table 3, the times covered ratio for acquired companies was significantly lower than the non-acquired firms. The mean score of times covered ratios for acquired companies was 34.28% lower than the mean of non-acquired firms. This result implies that Hypothesis 4 is rejected, and that the acquired firms generally retain less of their earnings than the non-acquired firms. A significantly lower times covered ratio together with lower dividend yield for acquired firms indicate that in general, the shareholders of these companies are better of in selling their shares and be rewarded with immediate capital gains than earning dividend incomes. This is because the extent of capital gain for acquired firms may not continue, as lesser portion of the companies' earnings are being plowed back for growth opportunities.

To summarize, the common characteristics of the acquired firms can be concluded more positively using the univariate analysis than merely relying on averages. From the univariate analysis, the distinguishing characteristics of acquired firms are that these companies are relatively more overvalued against their underlying assets, less profitable, having higher portion of short-term liabilities in their capital structure, and retain less of their earnings than the non-acquired firms.

Factor Analysis

Factor analysis were conducted to determine the respective common underlying characteristics for acquired and non-acquired firms.

Common Factors For Acquired Firms

Table 4 listed the six unrotated factors that were extracted by applying the rule that required an eigenvalue of at least 1.0 for each factor. It is shown from the table that 85.3% of the total variance has been accounted for by six variables.

Table 4: Summary of Unrotated Factor Analysis For Acquired Firms.

Factor	Ratio	Eigenvalue	Percentage of Variance	Cumulative Percentage
1	Dividend Yield	6.20682	31.0	31.0
2	Times Covered	4.09203	20.5	51.5
3	EPS	3.25278	16.3	67.8
4	ROSF	1.34251	6.7	74.5
5	Gearing	1.15206	5.8	80.3
6	Valuation (t=0)	1.00440	5.0	85.3

The original 20 financial variables were reduced to six orthogonal factors after conducting the varimax rotation. The factor loadings and relationship between the financial ratios in each factor are tabulated in Table 5.

Table 5: Rotated Factor Matrix

Ratio	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
VR(t=-2)	0.97719					
VR(t=-1)	0.97082					
VR(t= 0)	0.95827					
VR(t=-3)	0.95375					
ROCE		0.88530				
ROI		0.83604				
EPS		0.79943				
DY		0.79177				
NPM		0.61606				
Asset Turnover		0.59443				
PER(t=-2)			0.99449			
PER(t=-1)			0.99165			
PER(t=-3)			0.98413			
PER(t=0)			0.97611			
Liquidity				0.80209		
EPSG				0.70401		
Debt-to-Equity					0.83879	
Gearing					0.59457	
ROSF					-0.57245	
Times Covered						0.82001

The six factors above represent the common characteristics of the acquired firms. The meaning of each factor is shown below.

(a) Factor 1 - valuation of the firms based on assets.

(b) Factor 2 - management efficiency in generating profits.

(c) Factor 3 - general market valuation based on price-earning ratio.

(d) Factor 4 - short-term liquidity of the company.

(e) Factor 5 - the debt dimension of the company.

(f) Factor 6 - the retained earnings of the firm.

Factor 1 depicted to us that the acquired companies were overvalued against their underlying assets. Factor 2 reflected that the acquired companies were relatively inefficient, resulted in low earnings, dividend and profit margins. Factor 3 and 4 indicated that price-earnings ratios and short-term liquidity would be the other

dimensions that could be looked upon as the characteristics of the taken-over companies. Factor 5 revealed that the acquired companies were generally using larger portion of current liabilities to finance their operation, indirectly paying more interest payment and resulted in low return to shareholders' fund. Factor 6 indicated that these firms retained a lower portion of their earnings. In addition to being consistent with the findings that were obtained from univariate analysis, results from factor analysis also provided the relationship and interactions between ratios that were grouped together.

Common Factors For Controls

Table 6 shows the five factors for the non-taken-over companies that were used as controls to the acquired firms. Table 7 illustrates the factor loadings of the financial ratios that were grouped into five uncorrelated factors.

Table 6: Summary of Unrotated Factor Analysis For Controls.

Factor	Ratio	Eigenvalue	Percentage of Variance	Cumulative Percentage
1	Dividend Yield	6.39011	32.0	32.0
2	Times Covered	4.15571	20.8	52.7
3	EPS	2.68449	13.4	66.2
4	ROSF	1.95641	9.8	75.9
5	Gearing	1.02283	5.1	81.0

As shown in Table 6, 81.0% of the total variance for the non-taken-over companies were explained by these five unrotated factors.

The five factors in Table 7 depict the common underlying dimensions of the acquired firms. The meanings attached to these factors are shown below.

(a) Factor 1 - valuation of the firms based on assets.

(b) Factor 2 - general market valuation based on price-earning ratio.

(c) Factor 3 - management strategy in achieving growth opportunity.

(d) Factor 4 - management efficiency in generating profitability.

(e) Factor 5 - shareholders dimension.

Table 7: Rotated Factor Matrix For Controls.

Ratio	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
VR(t=-1)	0.97323				
VR(t=-3)	0.96547				
VR(t= 0)	0.95015				
VR(t=-2)	0.93746				
PER(t=-2)		0.97640			
PER(t=-3)		0.97462			
PER(t=-1)		0.97389			
PER(t=0)		0.96714			
Gearing			0.89934		
EPSG			0.80628		
ROSF			0.74701		
Times Covered			0.68144		
Dedt-to-equity			0.67354		
Liquidity				0.81411	
NPM				0.81272	
Asset Turnover				-0.61784	
Dividend Yield					0.58697
EPS					0.57815
ROI					0.56774

The followings are the detailed descriptions of the factors for the controls. Factor 1 indicated that companies that were not acquired were also overvalued against their total assets. Factor 2 showed the market valuation dimension of these firms based on their respective earning per share. Factor 3 depicted the management strategy of the controls, particularly in striving for higher profitability over time by retaining more portion of earnings and using lesser current liabilities to finance their business. This dimension is clearly very different from the acquired companies mentioned earlier. Factor 4 illustrated that the controls were more liquid, having higher profit margin with lower trading activities. Factor 5 is a factor for shareholders. The financial ratios group under this factor revealed that the interests of the shareholders in the controls were

better safeguarded by their managers. These managements basically paid higher *dividend, provided higher return on investment and achieved stronger earnings per* share. This is a dimension that has been totally neglected by those firms which were taken-over that were analyzed earlier.

Multiple Discriminant Analysis (MDA)

Multiple discriminant analysis is conducted to determine whether the differences between the average profile of the acquired companies and non-acquired companies are statistically significant. In addition, it is also conducted to determine which are the financial ratios that will most discriminate between the two groups of firm. The stepwise MDA using the Mahalanobis distance (D^2) procedure is employed in this section. The significance level for all statistical tests in this section has been set at $p<0.1$. The analysis of the multiple discriminant analysis is divided into three stages, these stages are: (a) derivation, (b) validation and (c) interpretation.

Stage 1 - Derivation

Table 8 shows the group means for the eight surrogate financial ratios from 49 observations. Table 9 illustrates the univariate analysis of variance used to test the significant difference in the characteristics between the acquired and non-acquired firms.

Table 8: Group Means For Two-Group Discriminant Analysis.

Items	Dividend Yield	Gearing	VR(t=-2)	Liquidity	ROCE	DE	PER(t=-2)	Times Covered
Acquiree	2.20957	0.07391	2.65913	1.36783	0.05087	2.26174	37.13217	1.96826
Control	3.08000	0.08269	1.93077	1.42923	0.09192	0.78038	36.80731	2.72423
Total	2.67143	0.07857	2.27265	1.40041	0.07265	1.47571	36.95980	2.36939

Table 9: Group Standard Deviations For Two-Group Discriminant Analysis.

Items	Dividend Yield	Gearing	VR(t=-2)	Liquidity	ROCE	DE	PER(t=-2)	Times Covered
Acquiree	2.12579	0.11927	2.32991	1.85691	0.06310	3.95630	54.85386	3.53064
Control	2.28721	0.09873	1.09071	1.64003	0.05123	0.55770	44.70614	2.09176
Total	2.23349	0.10778	1.80071	1.72691	0.06017	2.80961	49.19436	2.85263

Table 10 shows the summary of multiple discriminant analysis for the acquired and non-acquired companies.

Table 10: Summary of Two-Group Stepwise Multiple Discriminant Analysis Results.

Summary Table.

Step	Action Entered	Wilk's Lambda	Significant of Lambda	Minimum D^2	Significant of D^2	Between Groups
1	ROCE	0.88162	0.0155	0.51710	0.0155	1 and 2
2	VR(t=-2)	0.84822	0.0227	0.68911	0.0227	1 and 2

Canonical Discriminant Functions.

Func-tion	Eigen-value	% of Var	Cumm %	Canon. Corr.	After Fcn	Wilks' Lambda	Chi-Square	D.F.	Sig.
					0	0.8482	7.572	2	0.0227
1*	0.1789	100.00	100.00	0.3896					

* Marks the 1 canonical discriminant functions remaining in the analysis.

Two financial ratios, namely return on capital employed (ROCE) and valuation ratio (VR) are the significant discriminators that entered into discriminant model. The discriminant function generated is significant ($p=0.0227<0.1$). The canonical correlation reported is 0.3896, which translates into 15.18% of the variance in the acquired companies in the research can be accounted by the five financial variables in this function.

Stage 2 - Validation

Table 11 shows the group centroids of samples of the acquired and non-acquired firms sampled in this section.

Table 11: Group Centroids of Canonical Discriminant Function.

Group	Number in Group (N)	Centroids: Function 1 (Z)
Acquired Firms	23	-0.44048
Non-acquired Firms	26	0.38965

The calculated group centroids are used to determine the critical cutting score that divide the two groups. The formula for the critical cutting score is as follow:

$$Z_{CU} = \frac{N_1Z_1+N_2Z_2}{N_1+N_2}$$

where

Z_{CU} = Critical cutting score for unequal group sizes.
N_1 = Number in group 1
N_2 = Number in group 2
Z_1 = Centroid for group 1
Z_2 = Centroid for group 2

By substituting the data recorded in Table 11, the calculated critical cutting score is zero (0.00). With the critical cutting score equals zero, the classification procedure to discriminate both group using function 1 (detailed formulation to be discuss in latter) generated in this section is:

1. Firm will be classified as firm acquired by others if the discriminant score is negative.
2. Firm will be classified as control if the discriminant score is positive.

Referring to Table 11 and the classification procedure mentioned above, significant difference does occur between the two groups based on the model that is derived from the two financial ratios stated in Table 10.

The above mentioned criteria were employed by SPSS to generate classification matrices. Table 12 shows the classification matrices for the analysis sample and

holdout sample. The percent of classification accuracy for both samples are indicated below each table.

The classification accuracy of standardized canonical discriminant function 1 for the analysis samples is 63.27%, which is 5.1% lower than the 66.67% classification accuracy of holdout samples. The proportional chance criterion approach is utilized to determine the acceptability of the classification accuracies for analysis and holdout samples. The formula for the computation of proportional chance criterion is

$$C_{PRO} = p^2 + (1 - p)^2$$

where

C_{PRO} = Proportional chance criterion = 50.2%
p = Proportion of individuals in group 1 = (23/49)
1 - p = Proportion of individuals in group 2.= [1 - (26/49)]

Table 12: Classification Matrices for Analysis Samples and Holdout Samples.

(A) Classification Results for cases selected for use in the analysis (Analysis Samples).

Actual Group		No. of Cases	Predicted Group Membership	
			1	2
Acquired Firms	1	23	9	14
			39.1%	60.9%
Controls	2	26	4	22
			15.4%	84.6%

Percent of "grouped" cases correctly classified: 63.27%

(B) Classification Results for unselected cases in the analysis (Holdout Samples).

Actual Group		No. of Cases	Predicted Group Membership	
			1	2
Acquired Firms	1	18	9	9
			50.0%	50.0%
Controls	2	15	2	13
			13.3%	86.7%

Percent of "grouped" cases correctly classified: 66.67%

The classification accuracy of the analysis samples is used to compare with the proportional chance criterion. The classification accuracy of 63.277% for the analysis

samples is higher than the 50.2% calculated from the formula used for proportional chance criterion. This concludes that the classification accuracy for both the analysis and holdout samples are acceptable.

Stage 3 - Interpretation

Two Fisher's Linear Discriminant Functions were generated by the SPSS computer program. These functions are:

$$Z_A = -2.26 + 0.83[VR(t=-2)] + 15.40[ROCE]$$

$$Z_C = -2.50 + 0.60[VR(t=-2)] + 28.05[ROCE]$$

where

Z_A = Discriminant score for acquired company.
Z_B = Discriminant score for controls.
VR(t=-2) = Valuation ratio at 2-month before acquisition announcement.
ROCE = Return On Capital Employed.

Since the Mahalanobis method is being used for data analysis, interpretation will be based on results tabulated in Table 13 instead of using Fisher's equations. The Mahalanobis distant method has the following advantages over the Fisher's method:

(1) Mahalanobis procedure allows adjustment for unequal variances.

(2) Less dimensional and information loss in Mahalanobis procedure than Fisher's.

The standardized canonical discriminant function that has been widely quoted as function 1 (Fcn 1) in this research can be derived by referring to the standard coefficient column in Table 13. The canonical discriminant function that has been derived from both the acquired and control firms is shown below.

A positive standardized discriminant score will place the firm in the control category, while a negative standardized score will classify the firm in the acquired company category.

Table 13: Summary of Interpretive Measures For Two-Group Discriminant Analysis.

Step In	Financial Ratio	Standardized Coefficient	Structure Matrix	Univariate F Ratio
1	ROCE	0.87034	0.86625	6.311
2	VR(t=-2)	-0.49962	-0.49251	2.040
3	TC	Excluded	0.35844	0.855
4	GR	Excluded	-0.21142	0.079
5	DE	Excluded	-0.35133	3.575
Excluded	DY	Excluded	0.34173	1.888
Excluded	LR	Excluded	0.04303	0.015
Excluded	PER(t=-2)	Excluded	-0.03858	0.005

Table 13 defines the standardized canonical discriminant function as:

$$Z_S = 0.8703[ROCE]-0.4996[VR(t=-2)]$$

where

Z_S = Standardized canonical discriminant function, (Fcn1).
ROCE = Return on capital employed.
VR(t=-2) = Average valuation ratio at two months before acquisition announcement date.

The stepwise procedure was used to determine the most discriminatory ratios. Both the standardized discriminant function coefficients and the structure matrix in Table 13 displayed the relationship of the two ratios to the dependent variable, which in this case happened to be whether the company would be acquired or otherwise. From the table, there is a negative relationship between the valuation ratio [VR(t=-2)] and the dependent variable. On the contrary, there is a positive relationship between return on capital employed [ROCE] and the dependent variable. Cross checking with Table 8 shows that the group mean of valuation ratio for the acquired firms is highe than the controls. On the other hand, the group mean of return on capital employed for the acquired firms is lower than the controls. These results are consistent with the findings from univariate and factor analysis.